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Fig.1

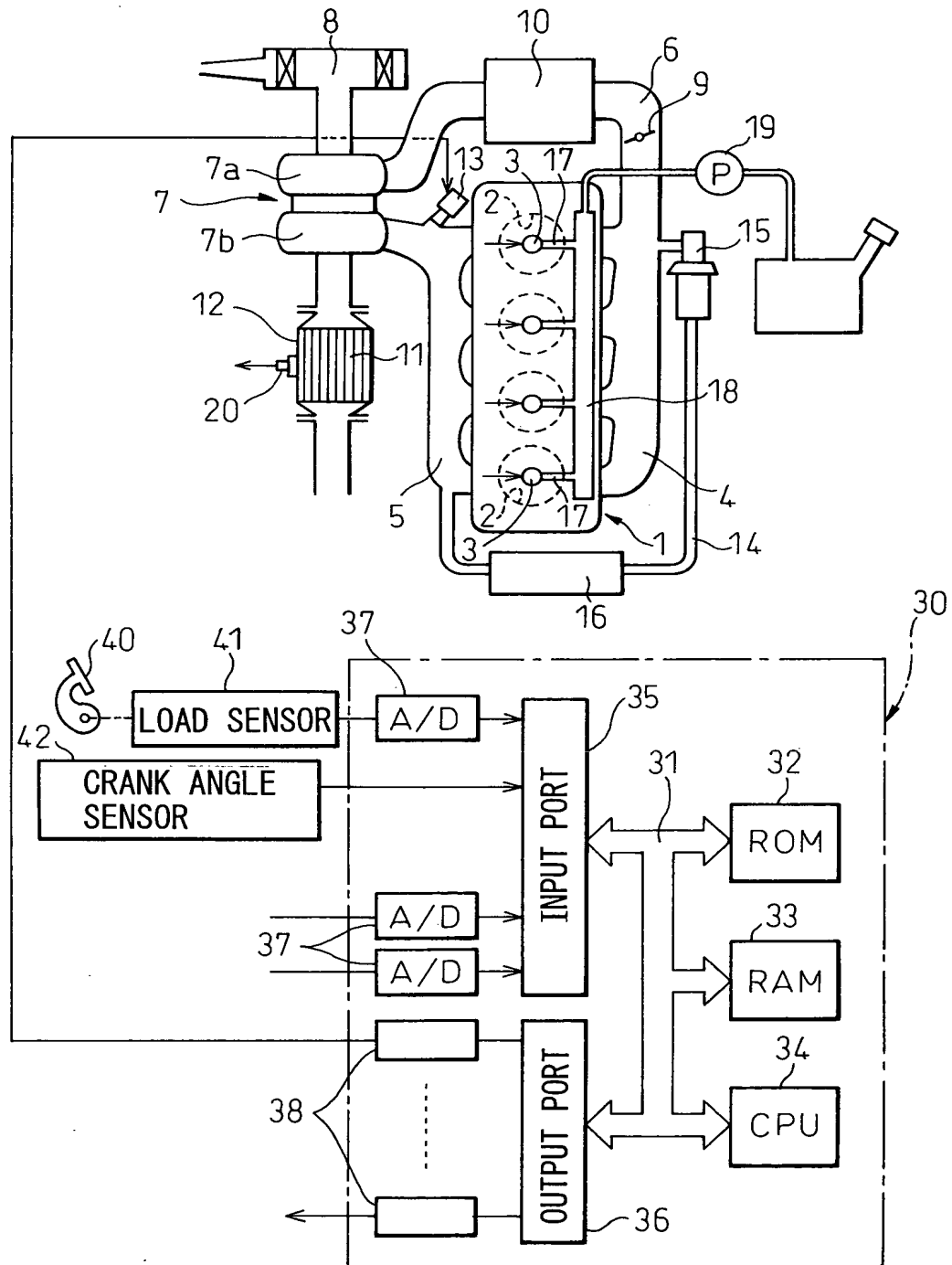


Fig. 2a

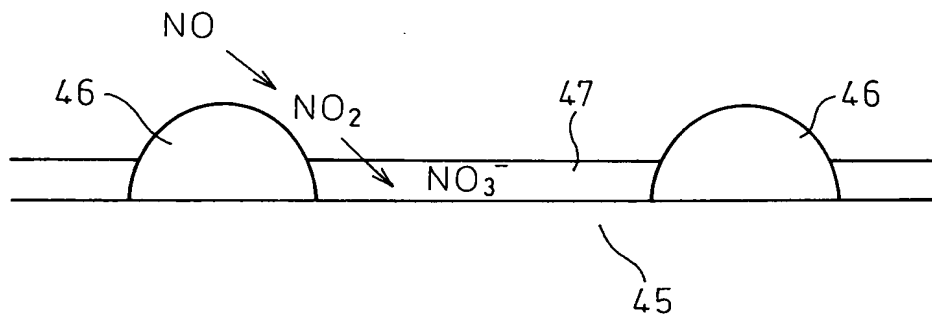


Fig. 2b

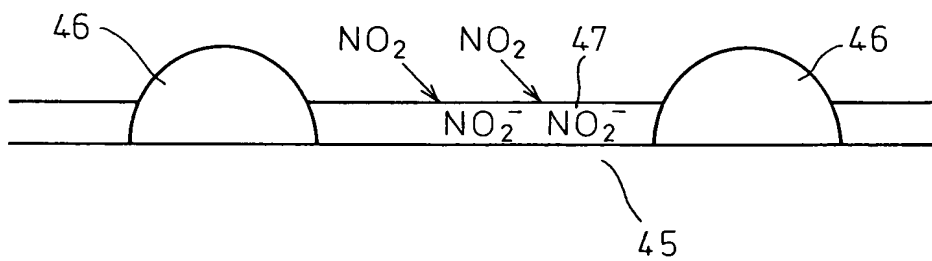


Fig.3

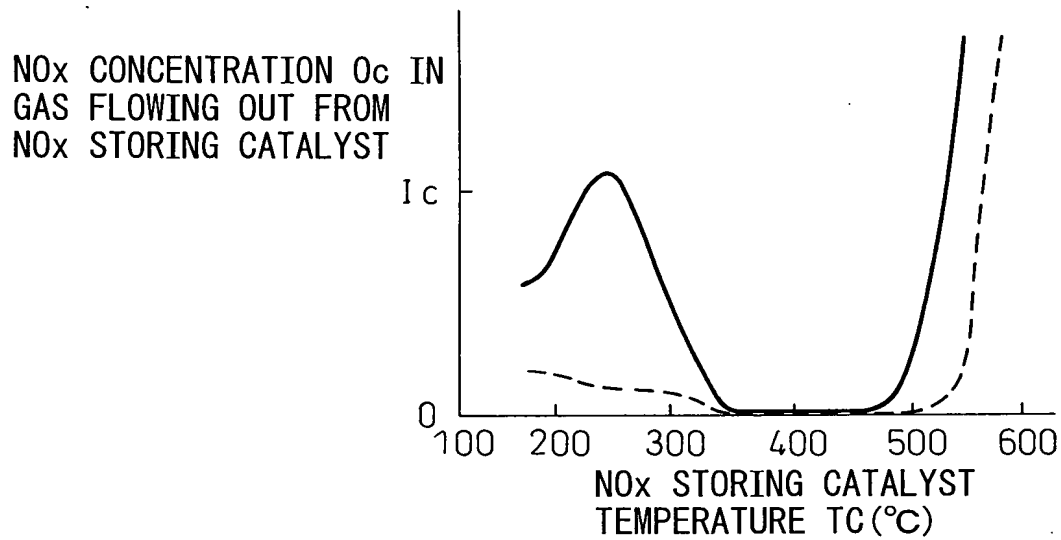
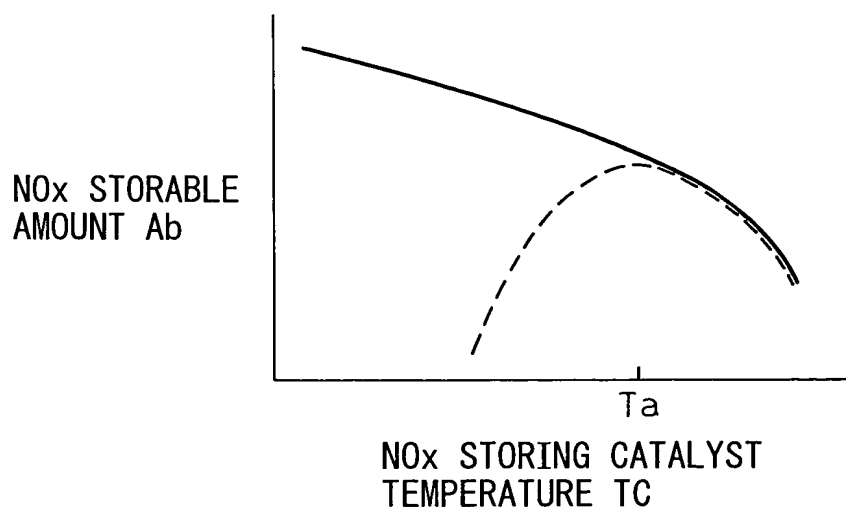


Fig.4



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Fig. 5

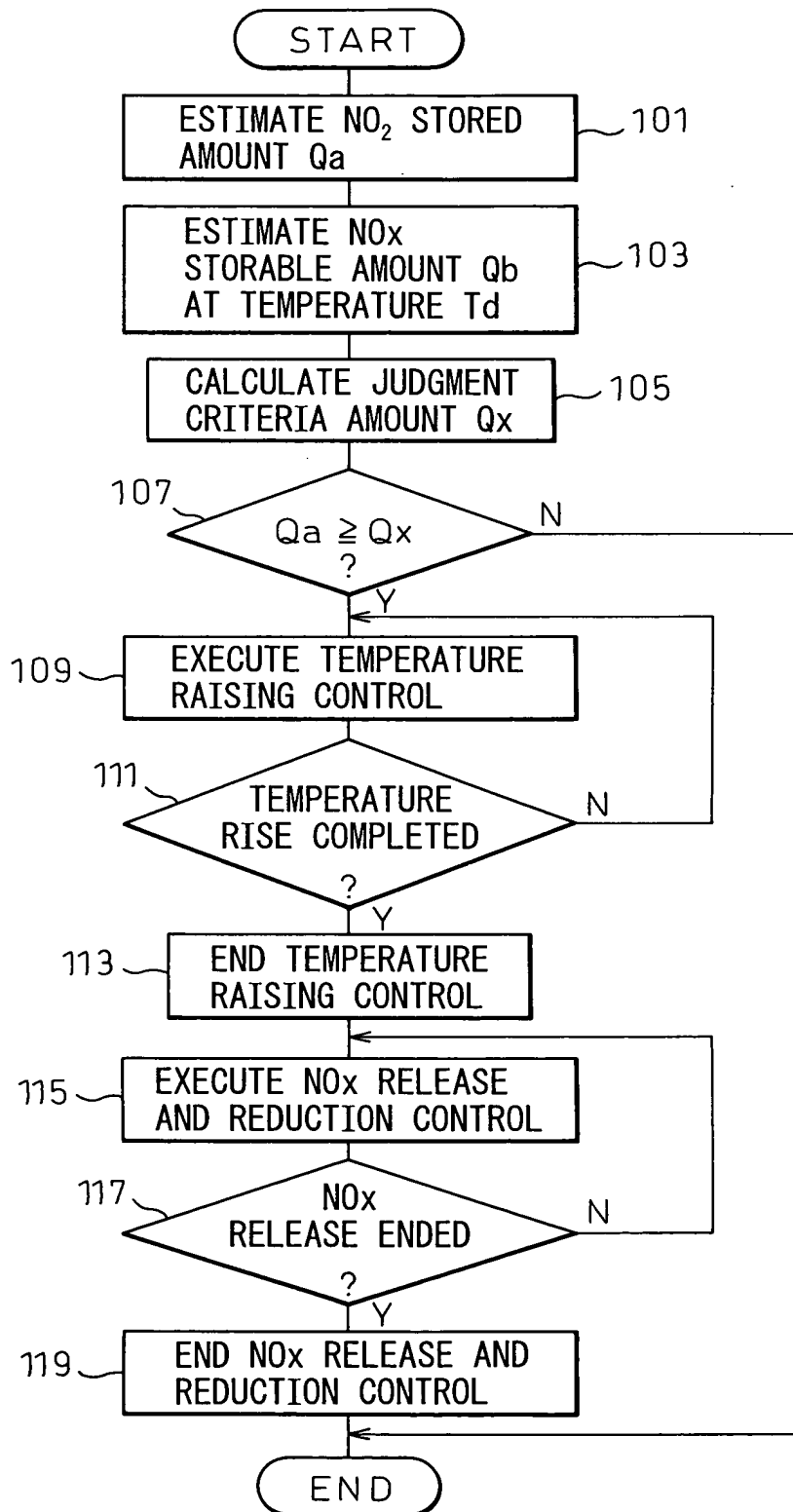


Fig.6

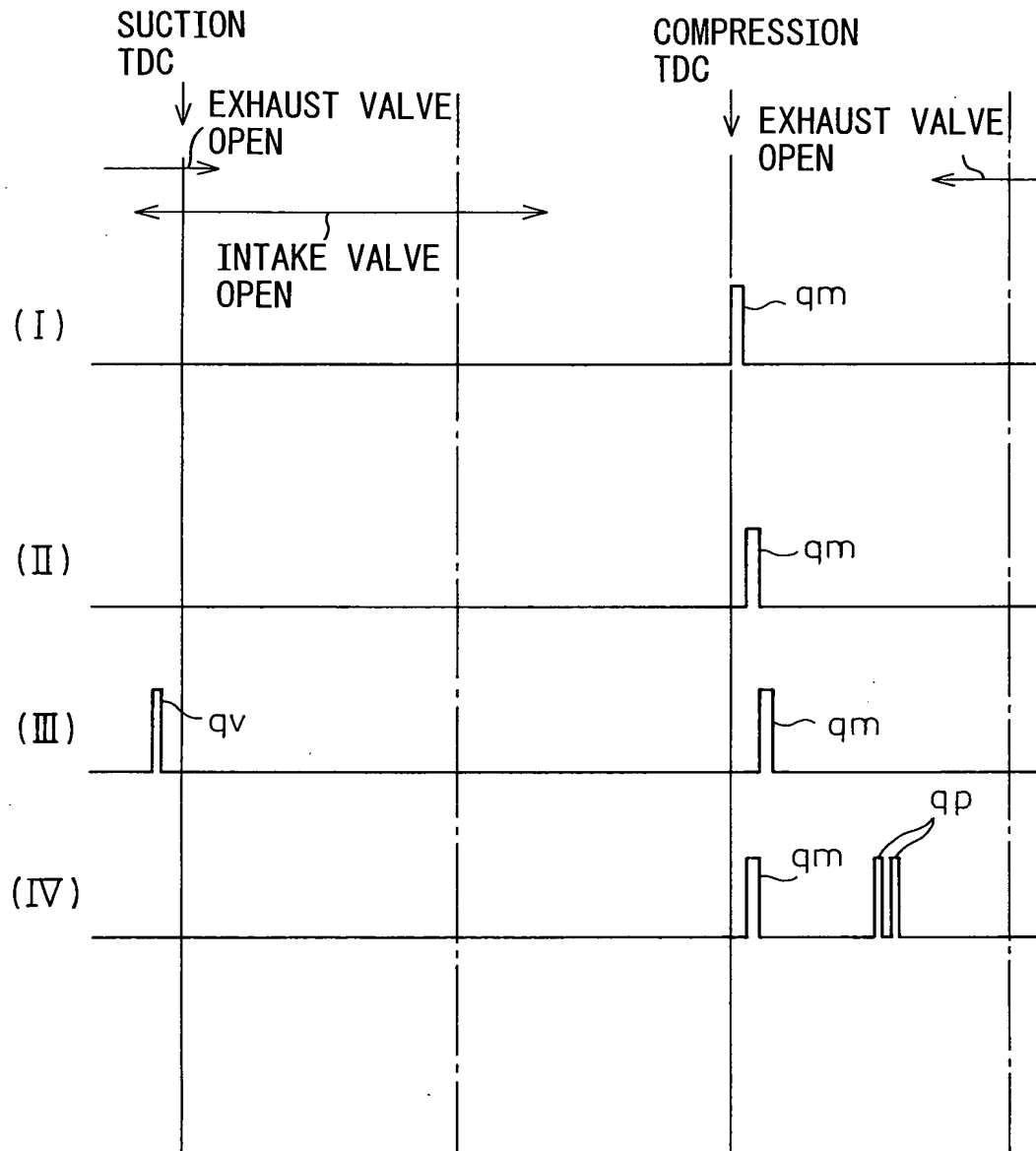


Fig.7

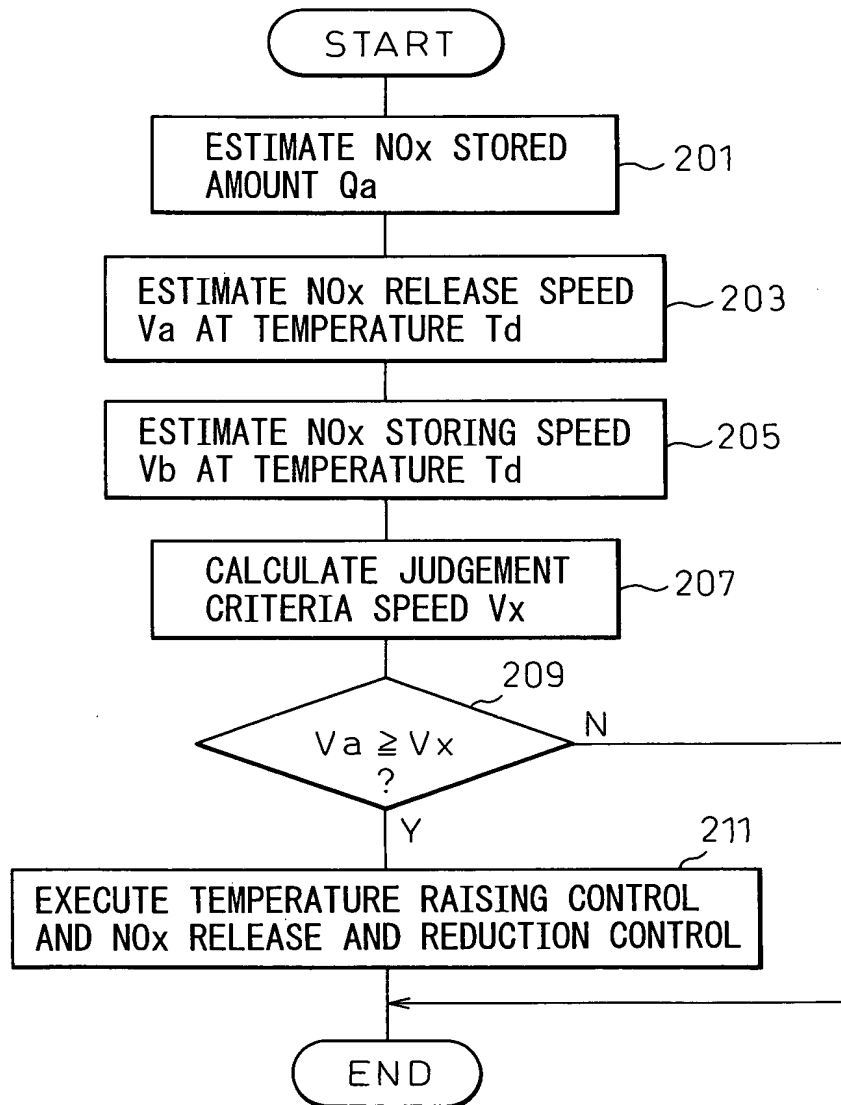


Fig.8a

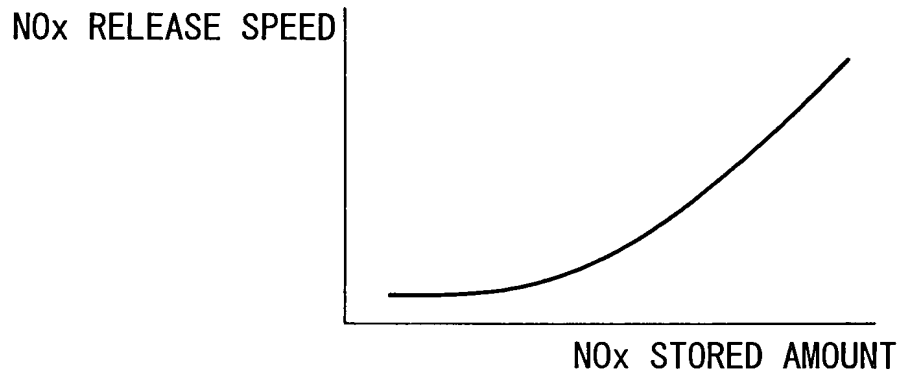
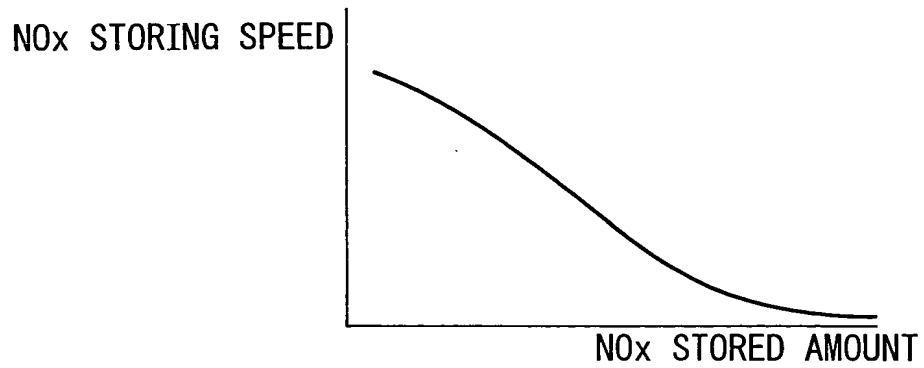


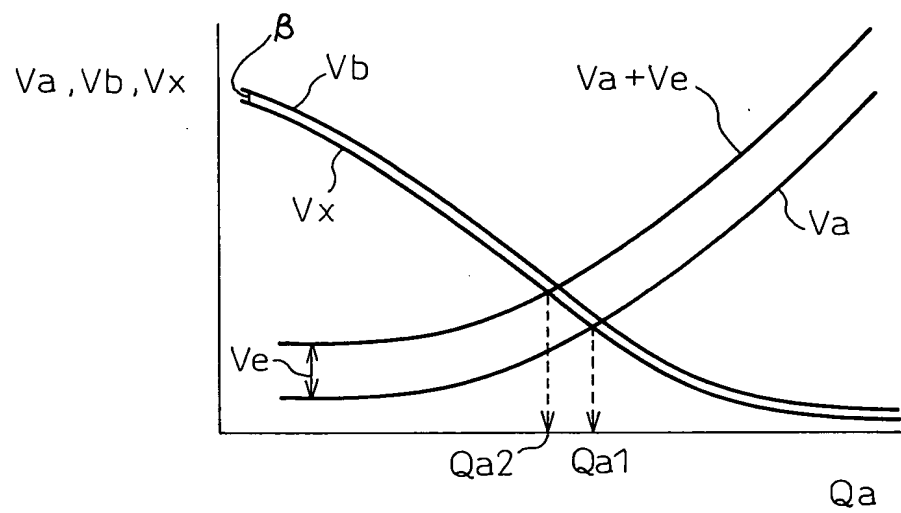
Fig.8b



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graph TD; START([START]) --> 301[ESTIMATE NO2 STORED AMOUNT Qa]; 301 --> 303[ESTIMATE NOx RELEASE SPEED Va AT TEMPERATURE Td]; 303 --> 305[ESTIMATE NOx EXHAUST SPEED Ve FROM ENGINE]; 305 --> 307[ESTIMATE NOx STORING SPEED Vb AT TEMPERATURE Td]; 307 --> 309[CALCULATE JUDGEMENT CRITERIA SPEED Vx]; 309 --> 311{Va + Ve ≥ Vx ?}; 311 -- N --> 313[EXECUTE TEMPERATURE RAISING CONTROL AND NOx RELEASE AND REDUCTION CONTROL]; 311 -- Y --> 313; 313 --> END([END]);
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The flowchart illustrates the process for NOx release and reduction control. It begins with a 'START' terminal, followed by a sequence of processing steps: 'ESTIMATE NO₂ STORED AMOUNT Qa' (301), 'ESTIMATE NO_x RELEASE SPEED Va AT TEMPERATURE Td' (303), 'ESTIMATE NO_x EXHAUST SPEED Ve FROM ENGINE' (305), 'ESTIMATE NO_x STORING SPEED Vb AT TEMPERATURE Td' (307), and 'CALCULATE JUDGEMENT CRITERIA SPEED Vx' (309). A decision diamond (311) evaluates the condition $Va + Ve \geq Vx$. If the condition is 'N' (No), the process proceeds to step 313. If the condition is 'Y' (Yes), the process also proceeds to step 313. Step 313, 'EXECUTE TEMPERATURE RAISING CONTROL AND NO_x RELEASE AND REDUCTION CONTROL', leads to the 'END' terminal.

Fig.10



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3 ... fuel injector
4 ... intake manifold
5 ... exhaust manifold
7 ... exhaust turbocharger
11 ... NOx storing catalyst
13 ... reducing agent supply valve

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